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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/389,386	09/03/1999	PATRICK IZQUIERDO	225/48098	5368

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EXAMINER

NGUYEN, TRINH T

ART UNIT

PAPER NUMBER

3726

DATE MAILED: 01/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/389,386

Applicant(s)
Izquierdo et al.

Examiner
Trinh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Dec 3, 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3, 4, 10, 11, and 24-27 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 10, 11, and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Continued Examination under 37 CFR 1.114 After Final Rejection

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/3/02 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 4, 10, 11, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirt (US 4,625,465) in view of Palazzolo et al. (US 5,691,004).

Kirt teaches a method for surface treatment of an interior of a hollow body such as an engine cylinder bore (10), wherein the method comprising the step of dry-cutting, i.e., honing, milling, drilling, brushing, knurling, and/or abrading, the interior of the hollow body (11) by

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using a tool (23, 36) to remove a surface material therein (note that Kirt's method for surface treatment of an interior of a hollow body such as an engine cylinder bore does not require lubrication).

Kirt teaches the claimed invention but lacks the teaching of 1) thermally spraying a layer to the surface of the hollow body, i.e. engine cylinder bore, without prior degreasing or cleaning and 2) having "a roughness value of from 25 to 65 μm ".

Regarding 1), note in the Abstract, Palazzolo et al. teach that after the honing/dry-cutting step the interior surface of the hollow body is thermally sprayed with a coat in order to increase the wear resistance and the lubricity of the hollow body. Further note in lines 38-43 of col. 5, Palazzolo et al. also teach that the step of thermally spraying a layer onto the surface can be done without prior degreasing or cleaning. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have thermally sprayed a layer onto a surface of Kirt's hollow body, without prior degreasing or cleaning, in a similar manner as taught in Palazzolo, for the purpose of increasing the wear resistance and lubricity thereof.

Regarding 2), it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the roughness set to a certain specific range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 4, it is noted that Kirt's tool includes the use of stones (37) in the honing process. However, it does not specifically indicate that the stone used in the tool comprises cubic

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boron nitride, polycrystalline diamond, a coated or uncoated hard metal of a ceramic. Palazzolo et al., on the other hand, disclose that a honing tool can be comprised of any hard material such as boron nitride, coated or uncoated metal, or even diamond so as to roughen the inner surfaces of a cylinder bore (see lines 1-20 of col. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the use of boron nitride, coated or uncoated metal, and/or diamond in Kirt's tool, in a similar manner as taught in Palazzolo, in order to efficiently roughen the inner surfaces of a engine cylinder bore.

Regarding claims 10 and 11, note that Kirt's tool (23, 36) can be interpreted as an indexing insert wherein the tool is fitted with a plurality of indexing inserts (27, 37).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 3, 4, 10, 11, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Shepley et al. (US 5,622,753).

Shepley et al. disclose a method of surface coating an interior side of a cylinder bore including removing, by dry cutting without a lubricant, a portion of a material forming the

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interior side of the cylinder bore to be coated, directly applying a thermally sprayed tribological layer to the surface, without prior degreasing or cleaning.

For claim 3, note that Shepley et al's dry cutting is by drilling, brushing, knurling, circular milling or combinations thereof (see lines 65-67 of col. 1 and lines 1-50 of col. 3).

For claim 4, note that Shepley et al's tool (10) comprises cubic boron nitride, polycrystalline diamond, a coated or uncoated hard metal or a ceramic (see lines 13-33 of col. 3).

For claims 10 and 11, note that Shepley et al's tool (10) can be interpreted as an indexing insert wherein the tool is fitted with a plurality of indexing inserts (15, 16).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepley et al. (US 5,622,753).

Shepley et al. disclose the claimed invention except for having "a roughness value of from 25 to 65 um". However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the roughness set to a certain specific range as claimed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

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Response to Arguments

8. Applicant's arguments filed 12/3/02 have been fully considered but they are not persuasive.
9. In response to Applicant's arguments regarding that neither Kirt nor Palazzolo teaches directly applying a thermally-sprayed tribological layer to the surface of the cylinder bore without cleaning or degreasing. The Examiner agrees that Kirt does not teach this above claimed step; however, as shown in lines 38-43 of col. 5, Palazzolo teaches this above claimed step and that Palazzolo (the secondary reference) was combined with Kirt (the primary reference) to support the deficiency (i.e., the lacking of "applying a thermally-sprayed tribological layer to the surface, without cleaning or degreasing) of Kirt.
10. In response to Applicant's arguments regarding that Shepley does not mention dry-cutting without a lubricant and thermally spraying a layer without prior degreasing or cleaning, the Examiner disagreed. Applicant is referred to paragraphs # 4-7 above for further explanation/support.

Conclusion

11. Official documents related to the instant application may be submitted to the Technology Center 3700 mail center by facsimile at (703) 305-3579/3580.


Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1148.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Trinh Nguyen whose telephone number is (703) 306-9082.

ttn

December 30, 2002


GREGORY VIDOVICH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700